

IN THE SPECIFICATION

Amendments to the Specification:

On page 4, please replace the first paragraph (lines 12-23) with the following paragraph:

B1 The Twist-N-Lock WAP ring assembly simplifies the existing WAP ring assembly by improving the method of suspending the WAP ring assembly from the cam plungers of the Dual Frequency Confined ~~Coupled~~ upper chamber assembly. The invention includes two design features: 1) unique stepped counter-bored radial slots in the top WAP ring(s); and 2) three Twist-N-Lock adapters fastened to the cam plungers. These features eliminate the requirement for tools or fasteners to perform the operation of removing and reinstalling the WAP ring assembly. The invention allows one technician to lift and twist the WAP ring assembly 5 degrees for installation and removal. Since no tools or fasteners are required, potential damage to the WAP ring assembly is reduced during the operation of removing and reinstalling. The present invention also separates the stepped hanger from the chamber hanger, reducing complexity in installation by separating the two functions. The time to perform the operation is reduced from 5 minutes to approximately 15 seconds, thus reducing ~~MTBC (mean time between cleans)~~ MTTR (mean time to repair).

On page 7, please replace the second paragraph (lines 15-20) with the following paragraph:

B2 FIG. 3 is a schematic diagram of an installed Twist-N-Lock WAP hanger assembly. Referring back to FIG. 2, to install the Twist-N-Lock WAP ring assembly, the receiving or forward portion of the Twist-N-Lock bore 205 is aligned below the WAP hanger assembly 210. The ring is then lifted into position such that the hanger assembly 210 enters the

Reply to Office action of 04/02/2003

132
Bent
receiving bore 205 upon which the WAP ring is twisted or turned ~~clockwise~~ approximately 5 degrees clockwise and then slightly ~~dropped~~ lowered to lock the WAP ring into ~~its locked~~ position as shown in FIG. 3.

On page 8, please replace the first paragraph (lines 9-16) with the following paragraph:

133
FIG. 5a is a bottom view schematic diagram of a Twist-N-Lock WAP ring used in conjunction with processing 300 mm wafer substrates. Three Twist-N-Lock bores 205 are machined every 120 degrees. FIG. 6 is a schematic which shows the detail of the Twist-N-Lock bore. The Twist-N-Lock bore 205 is essentially ~~elliptical~~ elliptically composed of two circular bores 610 and 615 machined next to one another (the reception bore 610 and the lock bore 615) and set 5 degrees apart 620 on the same radial line 625. The stepped hanger bore 630 allows independent attachment of the stepped hanger shown in FIG. 7. FIG. 7 is a schematic view of a stepped hanger 700.

On page 8, please replace the last paragraph (lines 18-27 and pg 9 lines 1-2) with the following paragraph:

134
B1
FIG. 6b shows a cross section of the Twist-N-Lock bore 205 taken through line 3-3 of FIG. 6a. The bottom of the WAP Twist-N-Lock bore is elliptical, the result of machining both the receiving bore 610 and the lock bore 615 completely through the quartz on the underside of the WAP ring. The elliptical bottom of the bore must be of a width minimally as wide as the diameter of the bottom of the hanger adapter 410 (i.e., the bottom lip portion). This allows unfettered passage to the locking bore. The portion of hanging bore which extends through the top of the ring must allow passage of the plunger shaft and hanger

Reply to Office action of 04/02/2003

BT
adapter assembly to pass to the lock bore during the 5 degree clock-wise twist. This shaft passage minimally must be as wide as the shaft portion of the hanger adapter to allow unfettered passage to the locking bore. Unlike the reception bore, the lock bore does not continue through the top of the WAP Twist-N-Lock ring. Instead, it ends, creating a lip, 635 which allows the hanger adapter lip to contact the lock bore lip, creating a secure platform.

On page 14, please replace the abstract with the following paragraph:

Wafer area pressure rings used to confine plasma in plasma processing chambers
which are manufactured with bores therein such that replacement of the pressure rings during routine or repair maintenance is significantly eased. The bores allows the pressure rings to be installed by simply aligning the bores under hanging adapters which are connected to the ceiling of the chamber, lifting the rings such that a the hanging adapters enters the ring, and then turning or twisting the entire apparatus a miniscule amount, and then ~~dropping~~ lowering the ring apparatus on the hanging apparatus, thereby locking the rings in place.